

Frog and Toad Survey 2003

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Abstract

Survey sites with Blanchard's cricket frog, eastern gray treefrog, bullfrog, pickerel frog, and wood frog were at or above their long-term averages. Of the 12 anuran species, 5 showed an increase in percent occurrence in 2003 from the 2002 levels. However, the number of frog survey routes decreased to 80 in 2003 from 84 in 2002 and remain below the goal of 2 per county.

Introduction

The Wisconsin Department of Natural Resources (WDNR) has coordinated a volunteer frog and toad survey since 1984. The survey arose from concerns about declines in populations of some frog species and was endorsed and expanded by the WDNR Surveys committee in 1990. Wisconsin has 12 anuran species. One species (Blanchard's cricket frog) is endangered and 2 species (Bullfrog and Pickerel frog) are included on the Natural Heritage working list as "special concern". In general, anurans are considered to be good indicator species for the habitats where they are found.

Methods

Survey routes are distributed statewide, with a goal of 2 survey routes in each county of Wisconsin. Survey routes consist of 10 sites which are monitored 3 times yearly, 8-30 April, 20 May - 5 June, and 1-15 July. Surveys are started at dusk on evenings with wind velocities of less than 8 miles per hour. Water temperature is recorded at each stop where possible. The occurrence of each frog species is determined at each site by presence or absence of their song. The abundance of each species is ranked by the relative number of calling individuals. Stops with species calling in which individuals can be counted and there is no overlap in calls has an abundance rank of 1. When calls of individuals can be distinguished but there is some overlapping of calls the abundance rank is 2. When calls are constant, continuous and overlapping (full chorus) the abundance rank is 3. Percent occurrence is determined for each species specific to geographic range and peak calling periods. Survey data are analyzed using the Statistical Analysis System (SAS). The calling index for each species was summed to provide an index to the route population each year. These route populations are regressed on time to create a species population trend.

Results

The number of survey routes run decreased from 84 in 2002 to 80 in 2003. Observers remained the same from last year's level of 84 (Fig. 1). The number of routes run in each county is still well below our goal of 2 per county (Fig. 2).

Of the 12 anuran species, 5 showed an increase in percent occurrence in 2003 from 2002 levels. These were the Blanchard's cricket frog, western chorus frog, pickerel frog, mink frog, and wood frog. (Fig. 3). The eastern gray tree frog, bullfrog, and green frog were above their long-term means, but down from their 2002 occurrence levels. The American toad, northern spring peeper, Cope's gray tree frog, and northern leopard frog were below the previous year's occurrence levels and the long-term mean. Population trends, based on the call index, for each anuran species can be reviewed in Figure 3.

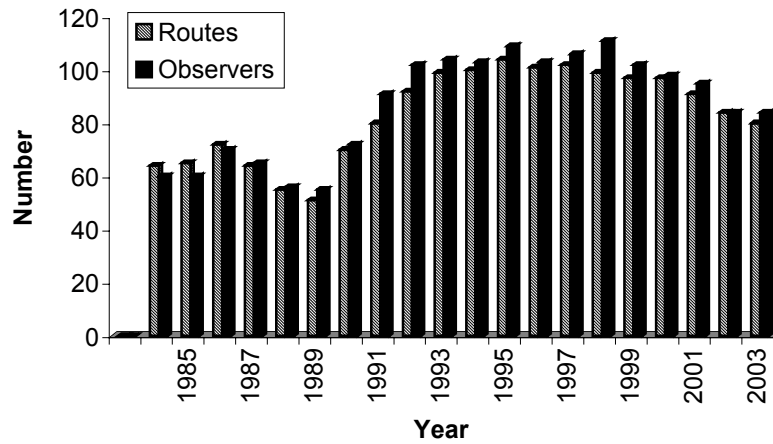


Figure 1. *The numbers of observers and frog routes completed, 1984-2003.*

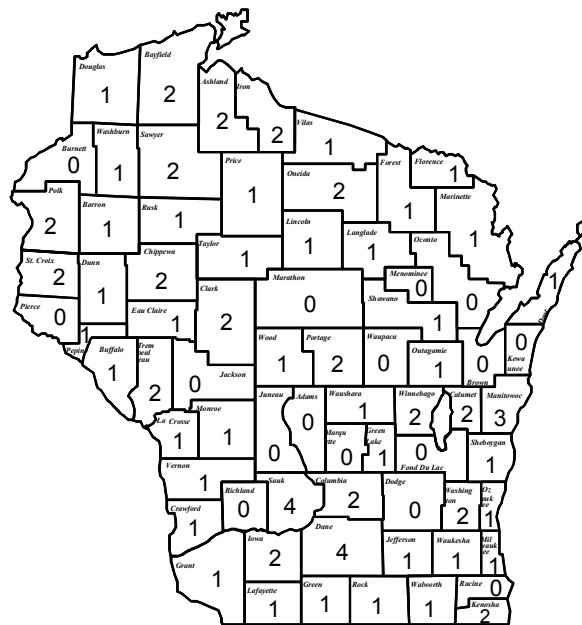


Figure 2. *The number of frog survey routes run in each county in 2003.*

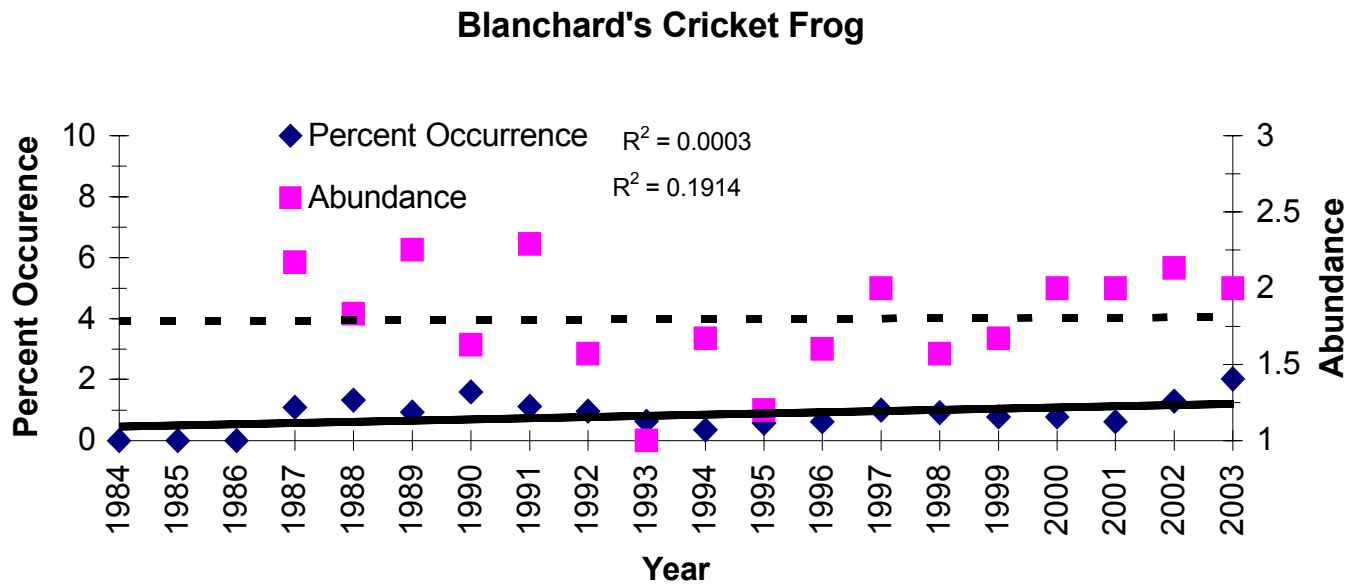
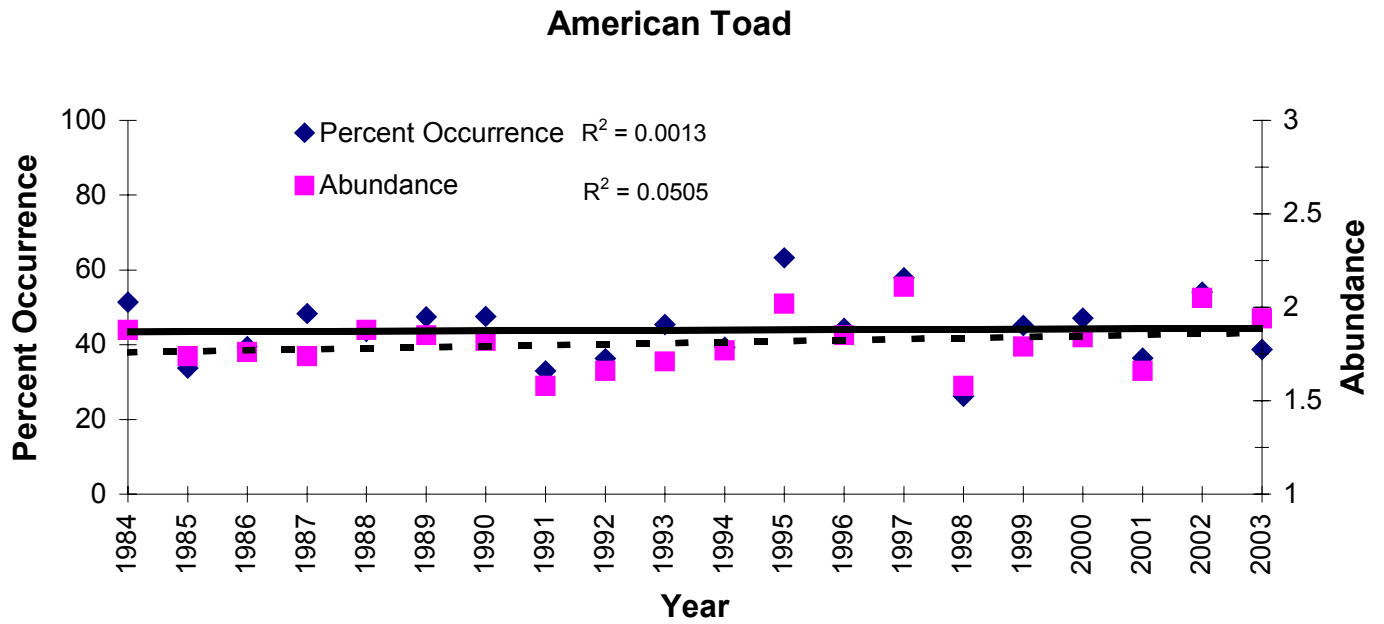
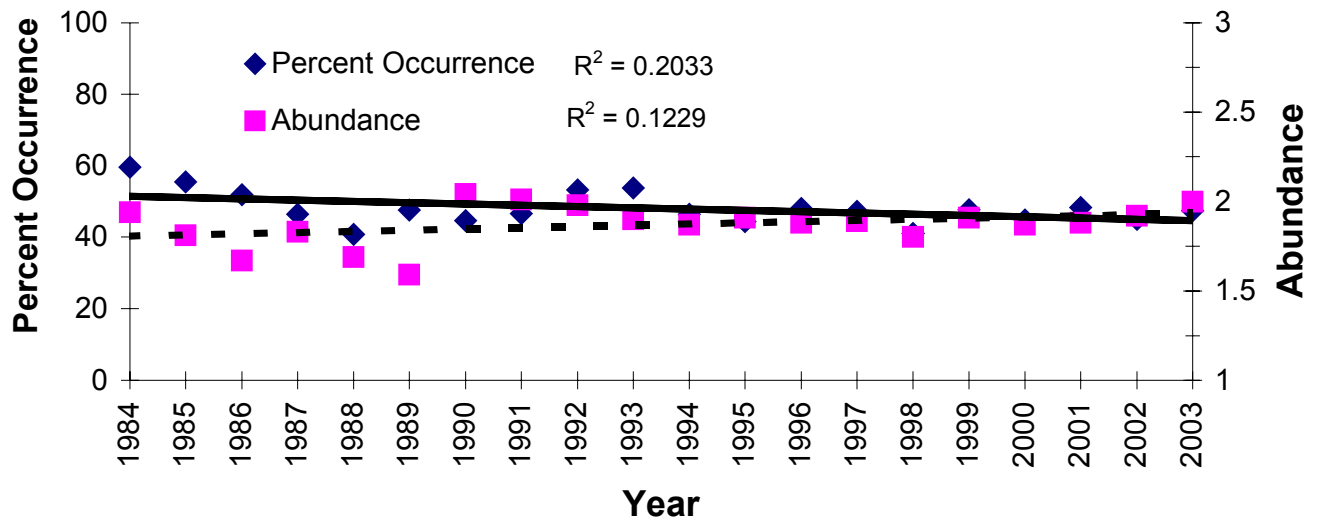


Figure 3. Percent occurrence and abundance of the 12 anuran species in Wisconsin, 1984-2003.

Western Chorus Frog



Northern Spring Peeper

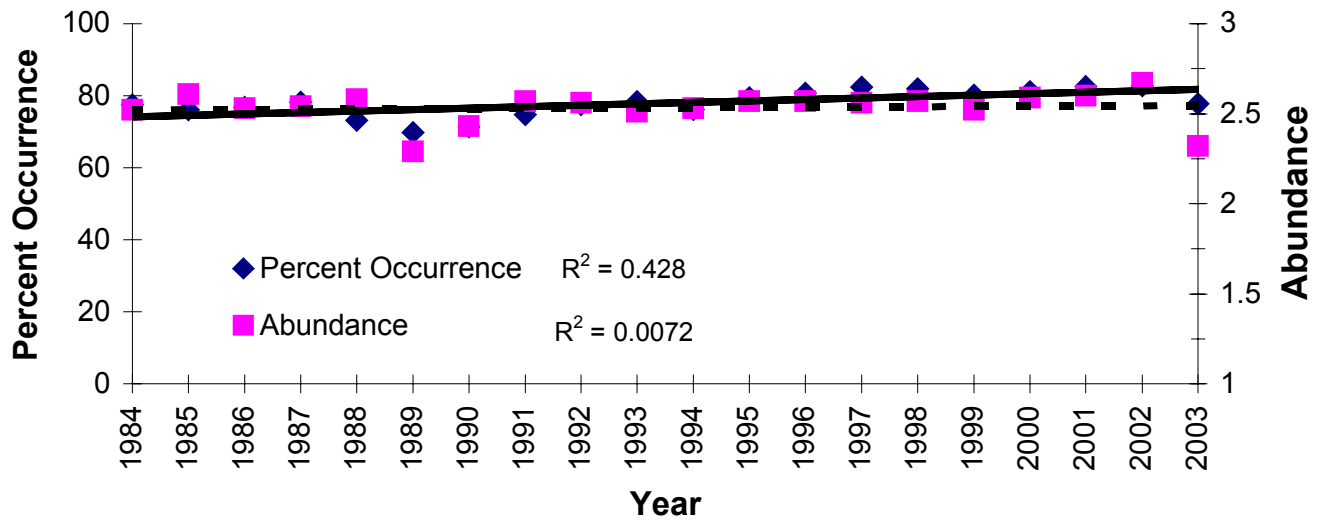
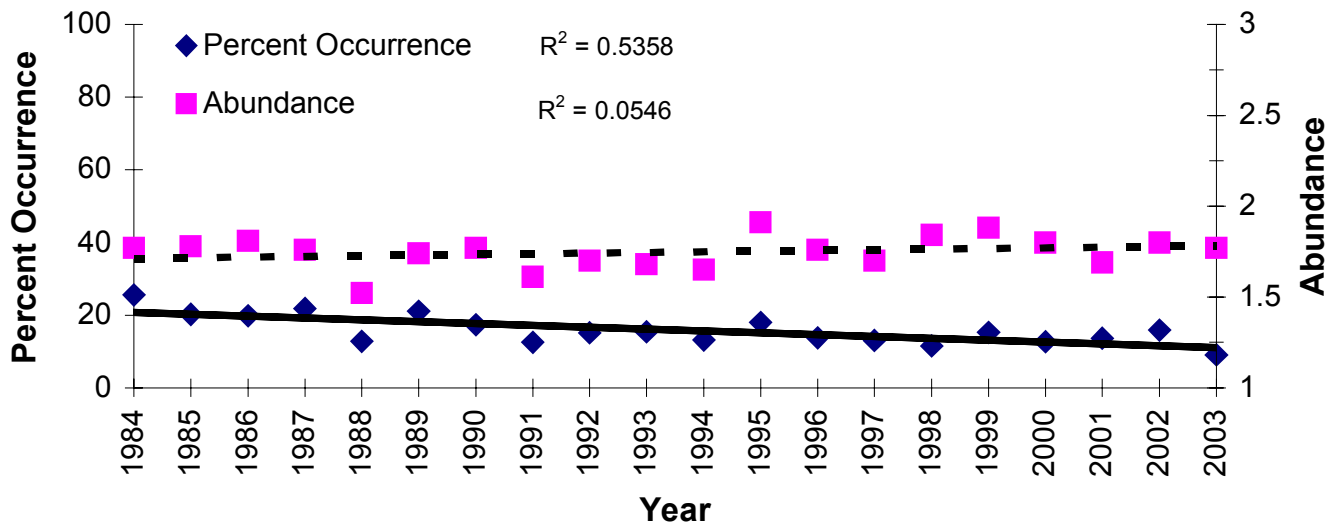


Figure 3. Continued.

Cope's Gray Treefrog



Eastern Gray Treefrog

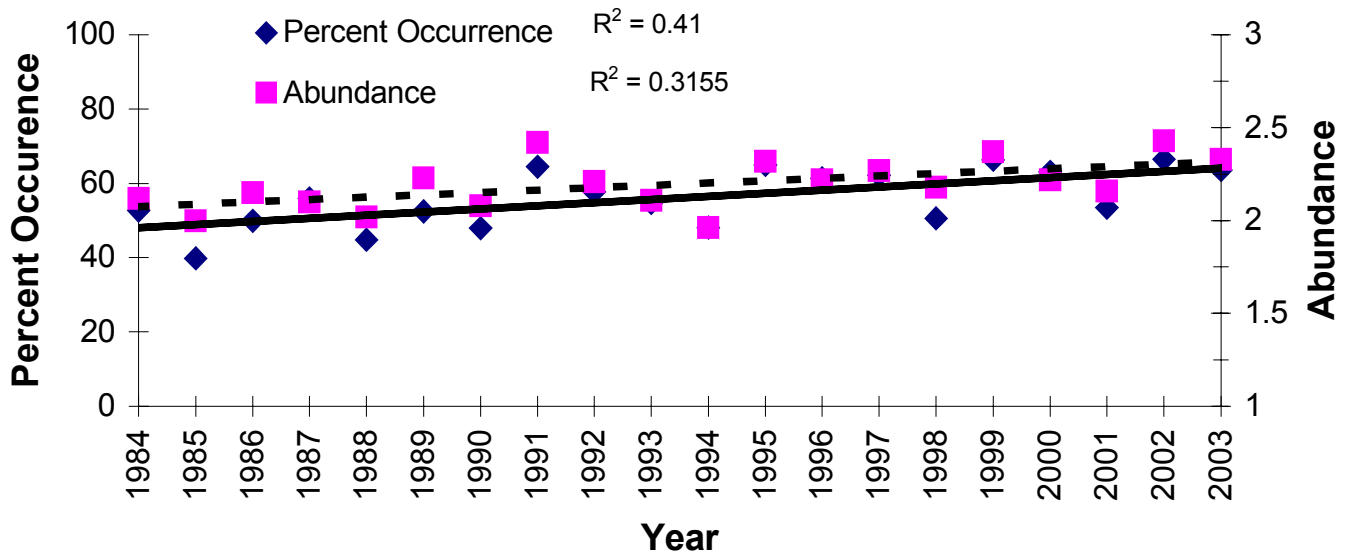


Figure 3. Continued.

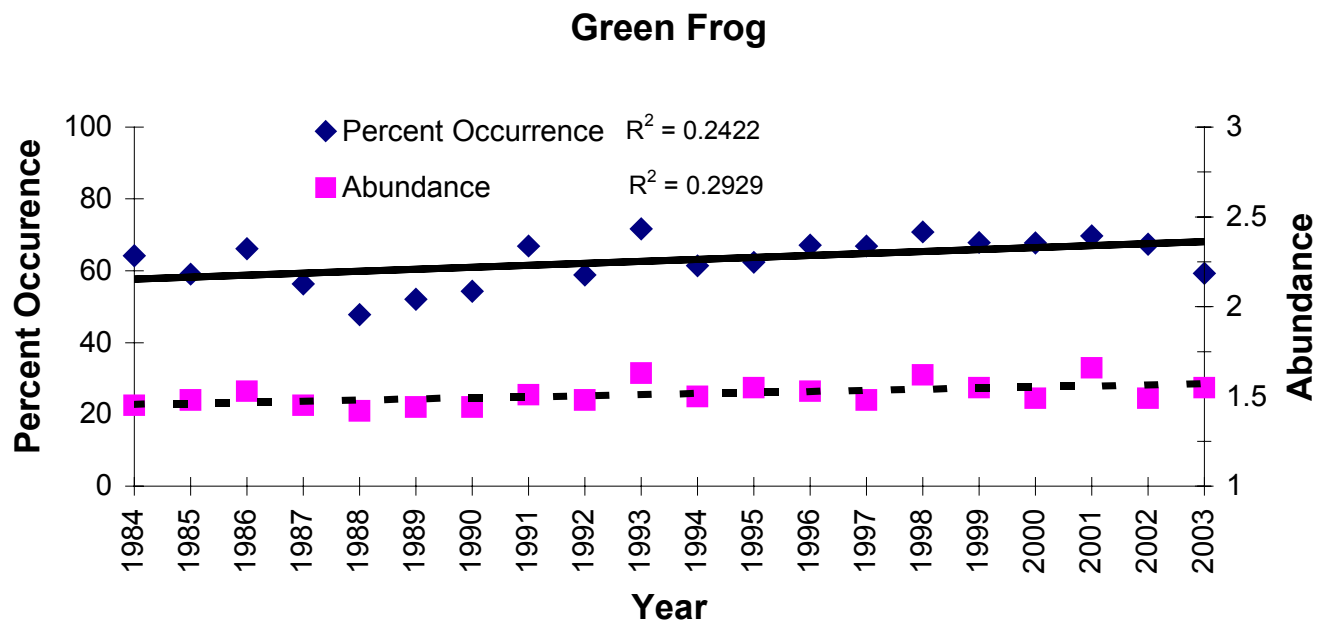
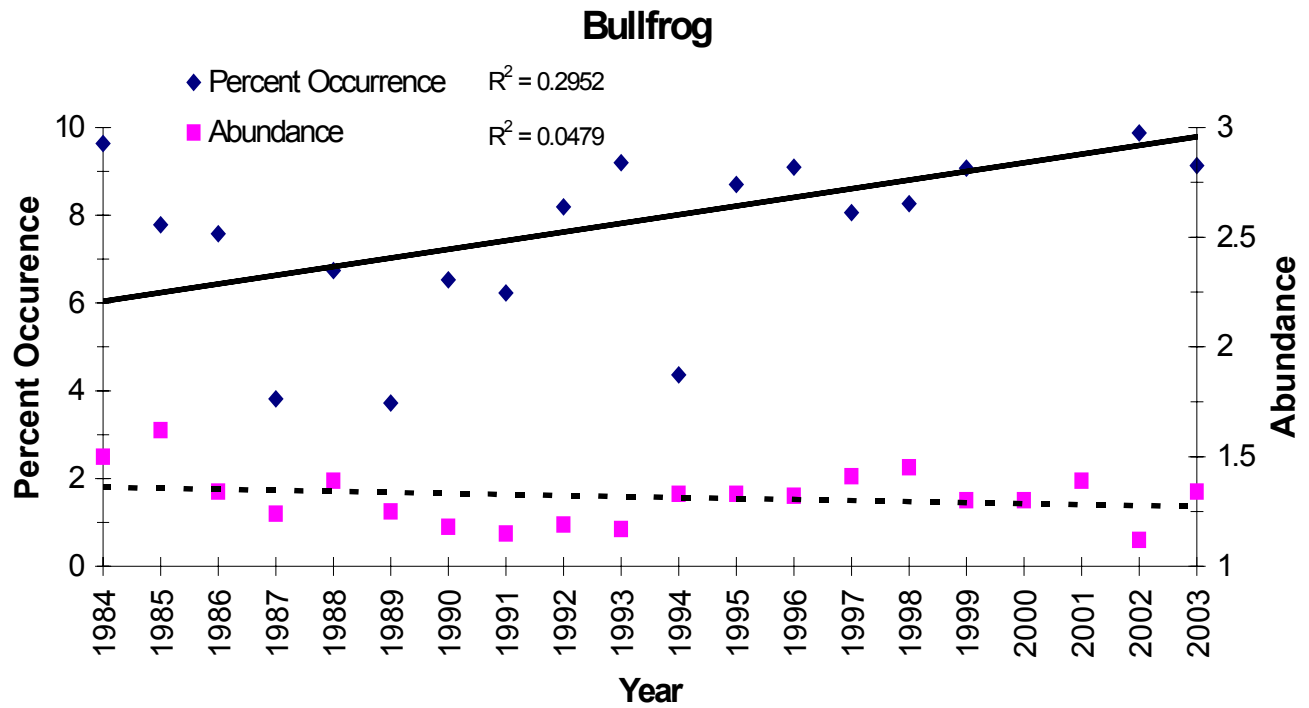
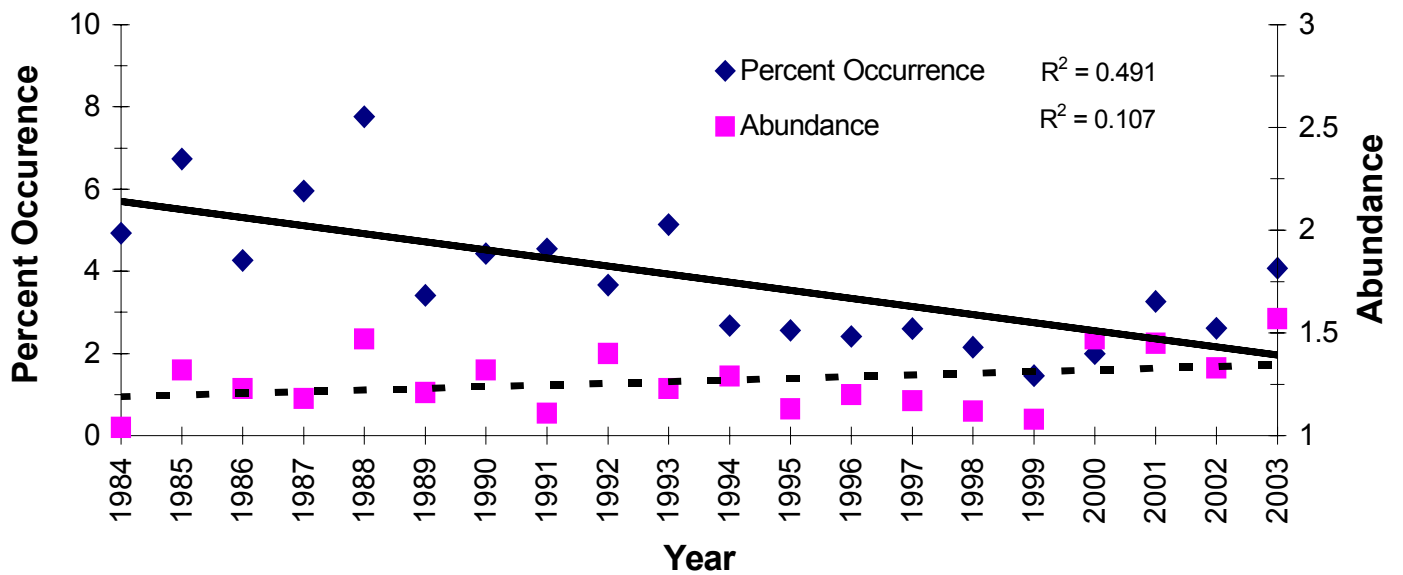


Figure 3. Continued.

Pickrel Frog



Northern Leopard Frog

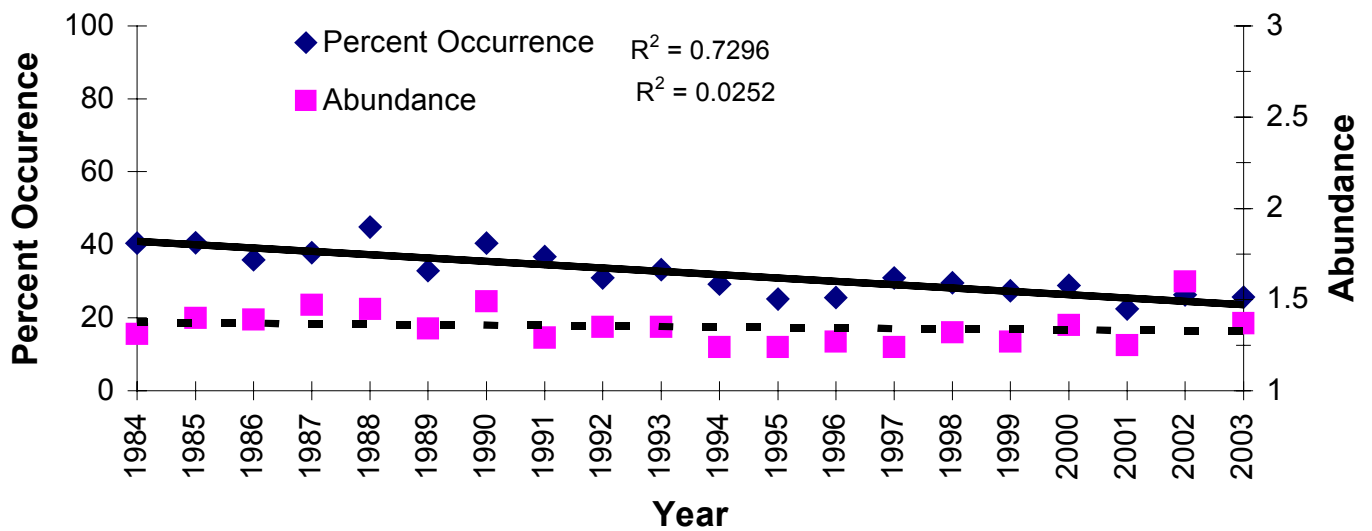
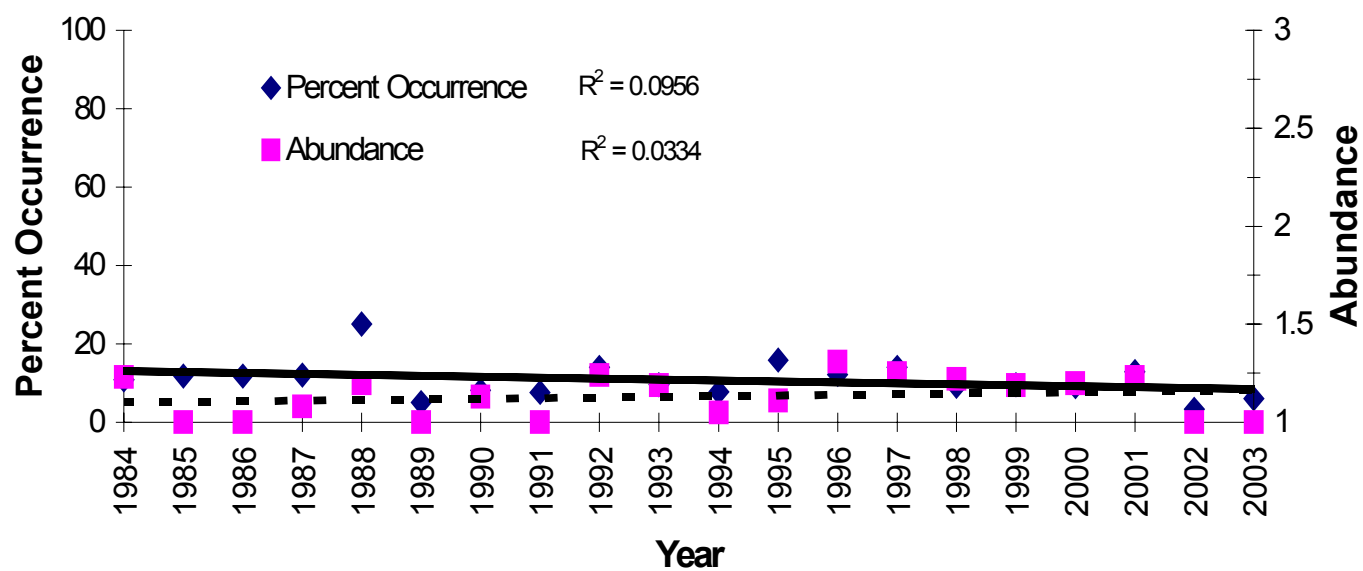


Figure 3. Continued.

Mink Frog



Wood Frog

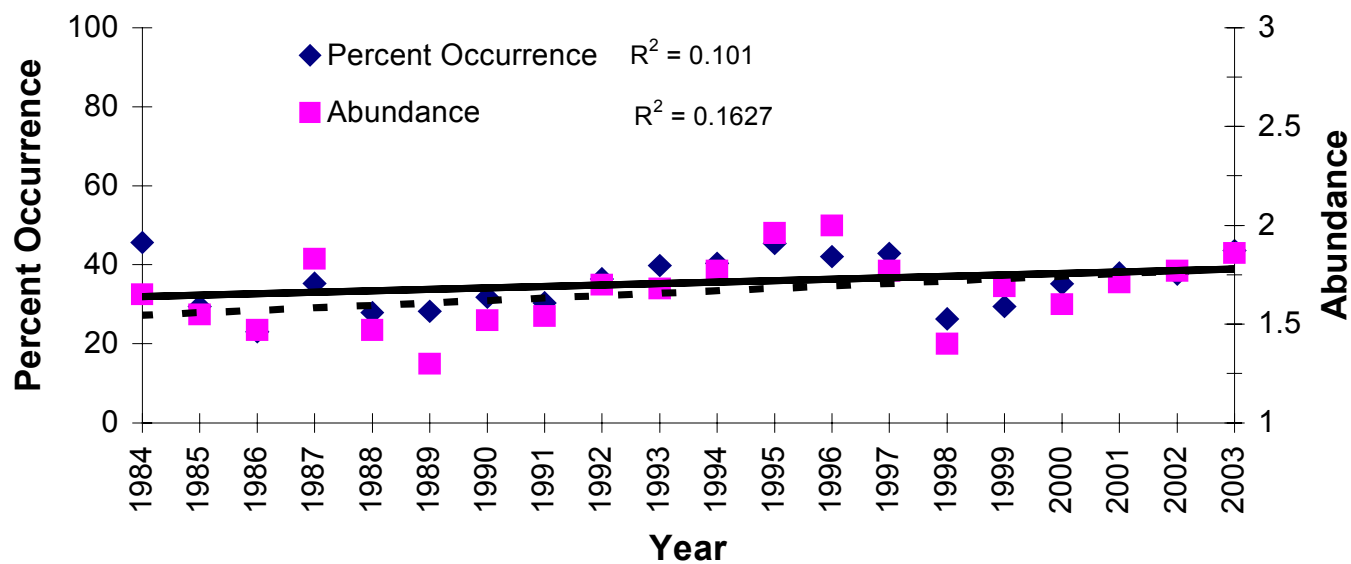


Figure 3. Continued.